Firefighting Occupations

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Significant Points

- Firefighting involves hazardous conditions and long, irregular hours.
- About 9 out of 10 firefighting workers were employed by municipal or county fire departments.
- Applicants for municipal firefighting jobs generally must pass written, physical, and medical examinations.
- Keen competition for jobs is expected.

Nature of the Work

Every year, fires and other emergencies take thousands of lives and destroy property worth billions of dollars. Firefighters help protect the public against these dangers by rapidly responding to a variety of emergencies. They are frequently the first emergency personnel at the scene of a traffic accident or medical emergency and may be called upon to put out a fire, treat injuries, or perform other vital functions.

During duty hours, firefighters must be prepared to respond immediately to a fire or any other emergency that arises. Because fighting fires is dangerous and complex, it requires organization and teamwork. At every emergency scene, firefighters perform specific duties assigned by a superior officer. At fires, they connect hose lines to hydrants, operate a pump to send water to high pressure hoses, and position ladders to enable them to deliver water to the fire. They also rescue victims and provide emergency medical attention as needed, ventilate smoke-filled areas, and attempt to salvage the contents of buildings. Their duties may change several times while the company is in action. Sometimes they remain at the site of a disaster for days at a time, rescuing trapped survivors and assisting with medical treatment.

Firefighters have assumed a range of responsibilities, including emergency medical services. In fact, most calls to which firefighters respond involve medical emergencies, and about half of all fire departments provide ambulance service for victims. Firefighters receive training in emergency medical procedures, and many fire departments require them to be certified as emergency medical technicians. (For more information, see the *Handbook* statement on emergency medical technicians and paramedics.)

Firefighters work in a variety of settings, including urban and suburban areas, airports, chemical plants, other industrial sites, and rural areas like grasslands and forests. In addition, some firefighters work in hazardous materials units that are trained for the control, prevention, and cleanup of oil spills and other hazardous materials incidents. (For more information, see the *Handbook* statement on hazardous material removal workers.) Workers in urban and suburban areas, airports, and industrial sites typically use conventional firefighting equipment and tactics, while forest fires and major hazardous materials spills call for different methods.

In national forests and parks, *forest fire inspectors and prevention specialists* spot fires from watchtowers and report their findings to headquarters by telephone or radio. Forest rangers patrol to ensure travelers and campers comply with fire regulations. When fires break out, crews of firefighters are brought in to suppress the blaze using heavy equipment, handtools, and water hoses. Forest firefighting, like urban firefighting, can be rigorous work. One of the most effective means of battling the blaze is by creating fire lines through cutting down trees and digging out grass and all other combustible vegetation, creating bare land in the path of the fire that deprives it of fuel. Elite firefighters, called smoke jumpers, parachute from airplanes to reach otherwise inaccessible areas. This can be extremely hazardous because the crews have no way to escape if the wind shifts and causes the fire to burn toward them.

Between alarms, firefighters clean and maintain equipment, conduct practice drills and fire inspections, and participate in physical fitness activities. They also prepare written reports on fire incidents and review fire science literature to keep abreast of technological developments and changing administrative practices and policies.

Most fire departments have a fire prevention division, usually headed by a fire marshall and staffed by *fire inspectors*. Workers in this division conduct inspections of structures to prevent fires and ensure fire code compliance. These firefighters also work with developers and planners to check and approve plans for new buildings. Fire prevention personnel often speak on these subjects in schools and before public assemblies and civic organizations.

Some firefighters become *fire investigators*, who determine the origin and causes of fires. They collect evidence, interview witnesses, and prepare reports on fires in cases where the cause may be arson or criminal negligence. They often are called upon to testify in court.

Working Conditions

Firefighters spend much of their time at fire stations, which usually have features common to a residential facility like a dormitory. When an alarm sounds, firefighters respond rapidly, regardless of the weather or hour. Firefighting involves risk of death or injury from sudden cave-ins of floors, toppling walls, traffic accidents when responding to calls, and exposure to flames and smoke. Firefighters may also come in contact with poisonous, flammable, or explosive gases and chemicals, as well as radioactive or other hazardous materials that may have im-

Firefighters use a variety of technologies to ensure prompt and effective responses to emergency situations.

mediate or long-term effects on their health. For these reasons, they must wear protective gear that can be very heavy and hot.

Work hours of firefighters are longer and vary more widely than hours of most other workers. Many work more than 50 hours a week, and sometimes they may work even longer. In some agencies, they are on duty for 24 hours, then off for 48 hours, and receive an extra day off at intervals. In others, they work a day shift of 10 hours for 3 or 4 days, a night shift of 14 hours for 3 or 4 nights, have 3 or 4 days off, and then repeat the cycle. In addition, firefighters often work extra hours at fires and other emergencies and are regularly assigned to work on holidays. Fire lieutenants and fire captains often work the same hours as the firefighters they supervise. Duty hours include time when firefighters study, train, and perform fire prevention duties.

Employment

Employment figures in this *Handbook* statement include only paid career firefighters—they do not cover volunteer firefighters, who perform the same duties and may comprise the majority of firefighters in a residential area. According the United States Fire Administration, nearly 70 percent of fire companies are staffed by volunteer fire fighters. Paid career firefighters held about 282,000 jobs in 2002. First-line supervisors/managers of firefighting and prevention workers held about 63,000 jobs; and fire inspectors held about 14,000.

About 9 out of 10 firefighting workers were employed by municipal or county fire departments. Some large cities have thousands of career firefighters, while many small towns have only a few. Most of the remainder worked in fire departments on Federal and State installations, including airports. Private firefighting companies employ a small number of firefighters and usually operate on a subscription basis.

In response to the expanding role of firefighters, some municipalities have combined fire prevention, public fire education, safety, and emergency medical services into a single organization commonly referred to as a public safety organization. Some local and regional fire departments are being consolidated into countywide establishments in order to reduce administrative staffs and cut costs, and to establish consistent training standards and work procedures.

Training, Other Qualifications, and Advancement

Applicants for municipal firefighting jobs generally must pass a written exam; tests of strength, physical stamina, coordination, and agility; and a medical examination that includes drug screening. Workers may be monitored on a random basis for drug use after accepting employment. Examinations are generally open to persons who are at least 18 years of age and have a high school education or the equivalent. Those who receive the highest scores in all phases of testing have the best chances for appointment. The completion of community college courses in fire science may improve an applicant's chances for appointment. In recent years, an increasing proportion of entrants to this occupation have had some postsecondary education.

As a rule, entry-level workers in large fire departments are trained for several weeks at the department's training center or academy. Through classroom instruction and practical training, the recruits study firefighting techniques, fire prevention, hazardous materials control, local building codes, and emergency medical procedures, including first aid and cardiopulmonary resuscitation. They also learn how to use axes, chain saws, fire extinguishers, ladders, and other firefighting and rescue equipment. After successfully completing this training, they are assigned to a fire company, where they undergo a period of probation.

A number of fire departments have accredited apprenticeship programs lasting up to 5 years. These programs combine formal, technical instruction with on-the-job training under the supervision of experienced firefighters. Technical instruction covers subjects such as firefighting techniques and equipment, chemical hazards associated with various combustible building materials, emergency medical procedures, and fire prevention and safety. Fire departments frequently conduct training programs, and some firefighters attend training sessions sponsored by the U.S. National Fire Academy. These training sessions cover topics including executive development, anti-arson techniques, disaster preparedness, hazardous materials control, and public fire safety and education. Some States also have extensive firefighter training and certification programs. In addition, a number of colleges and universities offer courses leading to 2- or 4-year degrees in fire engineering or fire science. Many fire departments offer firefighters incentives such as tuition reimbursement or higher pay for completing advanced training.

Among the personal qualities firefighters need are mental alertness, self-discipline, courage, mechanical aptitude, endurance, strength, and a sense of public service. Initiative and good judgment are also extremely important because firefighters make quick decisions in emergencies. Because members of a crew live and work closely together under conditions of stress and danger for extended periods, they must be dependable and able to get along well with others. Leadership qualities are necessary for officers, who must establish and maintain discipline and efficiency, as well as direct the activities of firefighters in their companies.

Most experienced firefighters continue studying to improve their job performance and prepare for promotion examinations. To progress to higher level positions, they acquire expertise in advanced firefighting equipment and techniques, building construction, emergency medical technology, writing, public speaking, management and budgeting procedures, and public relations.

Opportunities for promotion depend upon written examination results, job performance, interviews, and seniority. Increasingly, fire departments use assessment centers, which simulate a variety of actual job performance tasks, to screen for the best candidates for promotion. The line of promotion usually is to engineer, lieutenant, captain, battalion chief, assistant chief, deputy chief, and finally to chief. Many fire departments now require a bachelor's degree, preferably in fire science, public administration, or a related field, for promotion to positions higher than battalion chief. A master's degree is required for executive fire officer certification from the National Fire Academy and for State chief officer certification.

Job Outlook

Prospective firefighters are expected to face keen competition for available job openings. Many people are attracted to firefighting because it is challenging and provides the opportunity to perform an essential public service, a high school education is usually sufficient for entry, and a pension is guaranteed upon retirement after 20 years. Consequently, the number of qualified applicants in most areas exceeds the number of job openings, even though the written examination and physical

requirements eliminate many applicants. This situation is expected to persist in coming years.

Employment of firefighters is expected to grow about as fast as the average for all occupations through 2012 as fire departments continue to compete with other public safety providers for funding. Most job growth will occur as volunteer firefighting positions are converted to paid positions. In addition to job growth, openings are expected to result from the need to replace firefighters who retire, stop working for other reasons, or transfer to other occupations.

Layoffs of firefighters are uncommon. Fire protection is an essential service, and citizens are likely to exert considerable pressure on local officials to expand or at least preserve the level of fire protection. Even when budget cuts do occur, local fire departments usually cut expenses by postponing equipment purchases or not hiring new firefighters, rather than through staff reductions.

Earnings

Median hourly earnings of firefighters were $17.42 in 2002. The middle 50 percent earned between $12.53 and $22.96. The lowest 10 percent earned less than $8.51, and the highest 10 percent earned more than $28.22. Median hourly earnings were $17.92 in local government, $15.96 in the Federal Government, and $13.58 in State government.

Median annual earnings of first-line supervisors/managers of firefighting and prevention workers were $55,450 in 2002. The middle 50 percent earned between $43,920 and $68,480. The lowest 10 percent earned less than $34,190, and the highest 10 percent earned more than $84,730. First-line supervisors/managers of firefighting and prevention workers employed in local government earned about $56,390 a year in 2002.

Median annual earnings of fire inspectors were $44,250 in 2002. The middle 50 percent earned between $33,880 and $56,100 a year. The lowest 10 percent earned less than $26,350, and the highest 10 percent earned more than $69,060. Fire inspectors and investigators employed in local government earned about $46,820 a year.

According to the International City-County Management Association, average salaries in 2002 for sworn full-time positions were as follows:

	Minimum annual base salary	*Maximum annual base salary*
Fire chief	$64,134	$82,225
Deputy chief	56,522	72,152
Assistant fire chief	55,645	69,036
Battalion chief	54,935	68,673
Fire captain	45,383	54,463
Fire lieutenant	41,800	49,404
Fire prevention/code inspector	40,387	51,531
Engineer	38,656	48,678

Firefighters who average more than a certain number of hours a week are required to be paid overtime. The hours threshold is determined by the department during the firefighter's work period, which ranges from 7 to 28 days. Firefighters often earn overtime for working extra shifts to maintain minimum staffing levels or for special emergencies.

Firefighters receive benefits that usually include medical and liability insurance, vacation and sick leave, and some paid holidays. Almost all fire departments provide protective clothing (helmets, boots, and coats) and breathing apparatus, and many also provide dress uniforms. Firefighters are generally covered by pension plans, often providing retirement at half pay after 25 years of service or if disabled in the line of duty.

Related Occupations

Like firefighters, emergency medical technicians and paramedics and police and detectives respond to emergencies and save lives.

Sources of Additional Information

Information about a career as a firefighter may be obtained from local fire departments and from:

➤ International Association of Firefighters, 1750 New York Ave. NW., Washington, DC 20006. Internet: **http://www.iaff.org**

➤ U.S. Fire Administration, 16825 South Seton Ave., Emmitsburg, MD 21727. Internet: **http://www.usfa.fema.gov**

Information about firefighter professional qualifications and a list of colleges and universities offering 2-year or 4-year degree programs in fire science or fire prevention may be obtained from:

➤ National Fire Academy, 16825 South Seton Ave., Emmitsburg, MD 21727. Internet: **http://www.usfa.fema.gov/nfa/index.htm**